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AZ CORP COMMISSION DOCUMENT CONTROL

June 28, 2002

Docket Control Arizona Corporation Commission 1200 West Washington Street Phoenix, Arizona 85007

RE: In the Matter of the Investigation of the Cost of Telecommunications Access, Docket No. T-00000D-00-0672

Dear Corporation Commissioners and Staff:

Enclosed for filing in the above-captioned docket is the direct testimony of Curt Huttsell on behalf of Citizens Communications' three local exchange carrier affiliates: Frontier Citizens Utilities Rural (f/k/a Citizens Utilities Rural Company), Frontier Communications of the White Mountains (f/k/a Citizens Telecommunications of the White Mountains) and Navajo Communications Company, Inc.

Sincerely,

Curt Huttsell

**State Government Affairs** 

Arizona Corporation Commission DOCKETED

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**Enclosures** 

1	BEFORE THE ARIZONA CORPORATION COMMISSION
2	WILLIAM A. MUNDELL
3	CHAIRMAN JIM IRVIN
4	COMMISSIONER
5	MARC SPITZER COMMISSIONER
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7	IN THE MATTER OF THE INVESTIGATION   DOCKET NO. T-00000D-00-0672   OF THE COST OF
8	TELECOMMUNICATIONS ACCESS.
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12	DIRECT TESTIMONY OF
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16	CURT HUTTSELL, PH.D.
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21	CITIZENS COMMUNICATIONS COMPANY
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27	JUNE 28, 2002
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### **INTRODUCTION**

- Q. Please state your name and give your business address.
- A. My name is Curt Huttsell. My business address is 4 Triad Center, Suite 200, Salt Lake City, Utah 84180.
- Q. By whom are you employed and in what capacity?
- A. I am employed by Citizens Communications Company ("Citizens") as Manager, State Government Affairs.
- Q. Please describe your current duties and responsibilities.
- A. My responsibilities in Arizona include the management of regulatory and government affairs for Citizens' three rural incumbent local exchange companies ("ILECs") operating in Arizona. These three companies are Frontier Citizens Utilities Rural (f/k/a Citizens Utilities Rural Company), Frontier Communications of the White Mountains (f/k/a Citizens Telecommunications of the White Mountains) and Navajo Communications Company, Inc. I am responsible for the implementation of all regulatory policies, oversight of all regulatory activities including Citizens' intrastate rates and tariffs, and the management of state regulatory and legislative proceedings and relations. I have similar responsibilities for Utah and New Mexico.
- Q. Please describe your education and professional experience.
- A. I have been awarded B.S. and M.A. degrees in economics from Central Missouri State University and the Ph.D. in economics from the University of Nebraska.

I joined Citizens in July of 1999. Prior to joining Citizens, I was a Senior Economic Analyst with the consulting firm of INDETEC International. The domestic clients that I served while with INDETEC included U S WEST, BellSouth, Pacific Bell, Nevada Bell, GTE, Bell Atlantic and Cincinnati Bell. My international clients included the South Africa Telecommunications Regulatory Authority, Empresa de Telecomunicaciones de Santa fe de Bogotá and the Vodafone Network (Australia).

I have also served as Util

I have also served as Utility Economist within the Telecommunications
Section of the Utah Division of Public Utilities and as Research Economist on
the Telecommunications Department Staff of the Missouri Public Service
Commission. While with the Utah Division and the Missouri Commission, I
worked on many issues, including state universal service funds, unbundling
and interconnection, the structure of exchange access charges, incentive
regulation, and network modernization

My résumé is attached as Exhibit CH-1.

- Q. Have you previously testified before this Commission?
- A. Yes. I testified before this Commission in Midvale Telephone Exchange's most recent general rate case, Docket No. T-02532A-00-0512.

Q. Have you previously testified before any other state regulatory commissions?

A. Yes. While employed on regulatory staffs in Missouri and Utah, I testified before the Public Service Commissions in both states. While serving as a consultant, I testified before the Idaho Public Utilities Commission, the Iowa

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Utilities Board, the Montana Public Service Commission, the Nebraska Public Service Commission and the Washington Utilities and Transportation Commission.

## **SUMMARY OF TESTIMONY**

- Q. What is the purpose of your testimony?
- A. The purpose of my testimony is to present Citizens' position on access reform in Arizona.
- Q. Please summarize your testimony.
- A. Citizens recommends that this Commission bring switched access charges into closer correspondence with costs. The relevant measure of cost for determining the rate structure of public utility services is incremental cost, and the appropriate concepts of incremental cost for restructuring switched access rates are total service long-run incremental cost and its unit cost counterpart, average incremental cost.

The level of Citizens' intrastate switched access rates in Arizona has supported the provision of basic local exchange services and helped keep basic rates low. Margins above incremental cost have been incorporated into Citizens' switched access rates that contribute toward covering the costs of basic local exchange service. Thus, bringing intrastate switched access rates into closer alignment with incremental costs will undoubtedly lower access rates significantly and thereby substantially reduce access revenue streams. In the absence of increased support from the AUSF, steep local rate increases, or large subscriber line charges ("SLCs"), will be needed to offset the associated reductions in access charge revenues.

Citizens believes that the most appropriate means to recover the lost revenue associated with access reform is to increase basic local exchange rates. The markups and non-cost-based rate elements presently included in intrastate switched access rates have contributed toward the payment of costs attributable to the access line component of basic local exchange services. This policy cannot be sustained much longer given the large reductions in access charges at the interstate level. Alternatively, Citizens recommends imposing a uniform statewide SLC as the Federal Communications Commission has done.

To the extent that increased local exchange rates or a statewide SLC may appear to interfere with the goal of telephone service for everyone, the Commission should look to the Arizona Universal Service Fund ("AUSF"). The AUSF should be viewed as a source for balancing the reduction in revenues that accompanies access reform. Because the appropriate or equitable reduction in access rates could have a substantial impact on an ILEC's revenues, a phased-in approach is the best way to avoid rate shock. It will be necessary for the Commission to complete such rate restructuring over a period of 3-5 years. Although the Commission's first instinct may be to require the ILEC to file a rate case to recover lost access revenues, a rate case filing requires extensive time and resources passed on to the customers. Citizens contends that this approach is burdensome, expensive, and unreasonable. Instead, the Commission should look outside the box and find other equitable means to recover lost revenues stemming from access reform.

eliminate originating and terminating carrier common line ("CCL") charges altogether. CCL charges are usage-sensitive rate elements designed to recover the costs of supplying network access, but the costs of network access do not vary with usage. It is both inefficient and unfair to recover usage-insensitive costs through usage-sensitive charges.

Using its own access tariffs as a guide, Citizens suggests two approaches to

restructuring exchange access charges. Citizens' preferred approach is to

A second approach to access reform is to restructure access rates such that access revenues are reduced by half. This reduction in access revenues would bring switched access rates closer to incremental costs, which is a reasonably attainable target. Because it would result in an access revenue reduction similar in magnitude to eliminating CCL charges, this second approach will also require a 3-5 year phase-in approach. From the perspective of Citizens' three rural ILEC affiliates, reducing switched access revenues by half would increase the companies' need for some combination of increased local rates, a statewide SLC, and/or increased funding from the AUSF.

# THE ROLE OF INCREMENTAL COST IN PRICING SWITCHED ACCESS SERVICE

- Q. Why do you contend that incremental cost is the relevant measure of cost for pricing telecommunications services?
- A. Incremental cost is the relevant standard for promoting economic efficiency, and promoting economic efficiency is a key element in furthering the public interest. For a firm to attain economic efficiency, two conditions must be satisfied: (1) it must produce each service at the least possible cost, and (2) the value which consumers place on each service must be at

least as great as the cost incurred by the firm in the production of the service. Of particular importance in promoting fair competition and economic efficiency among firms is the "incremental cost criterion," which requires that each cost incrementally imposed on a firm be compensated by associated revenues. This is a necessary condition for economic efficiency. Economic efficiency should be promoted within firms as well as among firms, whether regulated or not.

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Q. Please distinguish between incremental costs and accounting costs.

Incremental costs are prospective in nature. Incremental costs are based on the current or expected future cost to expand (or contract) the existing resources, using the most economical, forward-looking technologies to accommodate expected changes in output. For example, if the existing (embedded) network consists of part fiber optic cable and part copper cable, the firm's accounting costs would reflect this mix of technology. However, if all future growth and replacements will be accommodated using fiber optic cable, incremental costs would appropriately anticipate the cost of such expansion. That is, incremental cost anticipates the manner in which resources will be deployed in the future, rather than looking back to the manner in which resources were deployed in the past.

Incremental costs necessarily reflect the value of assets in alternative employments; that is, the market value of assets, and incremental costs also include certain opportunity costs not found in accounting. This means economic depreciation, not accounting depreciation, should be used in determining incremental costs and a normal (risk adjusted) market return on equity should be included to represent the opportunity cost (best alternative use) of equity funds.

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- Q. What do you mean by total service long-run incremental cost and average incremental cost?
- Α. Total service long-run incremental cost ("TSLRIC") represents the forwardlooking cost added (or saved) by offering (or discontinuing) an entire service or group of services, holding constant the production of all other services produced by the firm. The TSLRIC of a single service refers to the sum of the service's volume-sensitive cost and volume-insensitive cost. Volume-sensitive cost is the change in forward-looking cost caused by increasing (or decreasing) the output of a product or service. Volume-insensitive cost (sometimes called "service-specific fixed cost") represents that portion of the forward-looking cost of a single product or service that does not vary as the level of output varies.

For an existing service, TSLRIC is equivalent to the cost saving that would result from reducing the volume of the service to zero, all else remaining constant. For a service not currently produced, TSLRIC is the total cost of increasing the volume of production from zero to some specific level, all else remaining constant.

AIC simply represents the unit cost equivalent of TSLRIC; that is, AIC converts TSLRIC into a measure of incremental cost per unit of output. Thus, the AIC of a service is found by dividing its TSLRIC by the units of output produced.

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- Q. Why are TSLRIC and AIC the appropriate incremental cost concepts for restructuring switched access charges?
  - Economic theory establishes that public utility rates should equal or exceed incremental cost. Due to economies of scale and scope, however, rates equal to incremental cost are not financially viable. In the presence of economies of scale and scope, a multi-product firm pricing all of its products at incremental cost would experience overall financial losses. Thus, the incremental cost criterion usually is satisfied in practice by showing that the rate charged for each service exceeds the service's AIC. When a single rate is selected for a service, setting that rate to exceed the service's AIC normally satisfies this criterion because TSLRIC (and therefore AIC) includes both volume-sensitive and volume-insensitive costs. Unless there is an explicit public policy to the contrary, the regulated rates for each service should be set so that the revenue from the service in total covers the incremental cost of the service in total. This provides safeguards against both cross-subsidization and predatory pricing. For a firm to remain financially viable, rates must (on average) exceed this minimum requirement to recover the costs shared by multiple services.
- Q. Should switched access rates be brought into equality with incremental cost?
- A. No. TSLRIC and AIC should be used as cost-based price floors for switched access services, not targets for setting precise charges. Multi-product, network firms like the Citizens' three rural Arizona ILECs are subject to economies of scale and scope. Firms subject to economies of scale and scope, such as Citizens' rural ILECs, are able to produce their products and services at lower costs than firms producing a single product or at smaller volumes. Despite this clear benefit, prescribing rates for all of an ILEC's

products and services such that no service yielded revenues in excess of TSLRIC would generate financial losses for the firm. Instead, the full array of services produced by ILECs like Citizens' three rural affiliates, including switched access services, must contribute toward the payment of the firms' shared costs. The amount of contribution from each service should be determined by market conditions.

#### PRICING SWITCHED ACCESS SERVICES IN THE PUBLIC INTEREST

- Q. Will bringing switched access rates closer to incremental costs reduce Citizens' switched access revenues?
- A. Yes. The intrastate switched access rates currently levied by Citizens' three rural Arizona ILECs contain margins over incremental cost that produce significant contributions toward the support of basic local exchange services. Reducing these margins will lower switched access rates appreciably, resulting in large reductions in switched access revenues.

Q. Please explain your contention that Citizens' switched access rates produce significant contributions toward the support of basic local exchange services.

A. First, each and every access minute that Citizens or any other Arizona ILEC sells, whether originating or terminating, is marked up by a rate element that bears no relationship to the cost of supplying switched access. This rate element is the CCL charge. CCL charges are designed to recover the costs of supplying subscribers with access to network services. The facilities that provide subscribers with network access are called access lines, or local loops, or sometimes, common lines. Access line costs are properly attributable to the services, which cause them to be incurred -- private line, special access, Centrex and the subscriber access component

of basic local exchange service. While access line costs are appropriately recovered from such services, they should not be recovered from long distance and switched access.

Even if one incorrectly believes access line costs are common costs, these costs are undeniably usage insensitive. Usage-insensitive costs should be recovered through flat rates, not usage-sensitive charges. Thus, CCL charges are not cost-based and should be eliminated entirely from intrastate access tariffs. The incremental costs associated with supplying network access should be recovered either from basic local rates or subscriber line charges.

Second, even if Citizens' intrastate switched access revenues were cut in half the result would be a composite access rate per minute that would exceed the Company's estimates of the AICs of local switching and transport. While Citizens has not made such estimates for its Arizona ILECs recently, estimates produced for operations in other states using similar equipment and facilities strongly suggest that if Citizen's switched access revenues in Arizona were cut in half, it still would not bring its access rates into equality with AIC.

- Q. How is converting usage-sensitive CCL charges into higher local rates or a statewide SLC in the public interest?
- A. Economic efficiency requires that prices reflect the manner in which suppliers incur the costs of producing goods and services. Not only should price levels be high enough to cover incremental costs but price structures should also match cost structures. As explained above, ILECs, like Citizens' three rural Arizona affiliates, incur network access costs when households

and businesses subscribe to telephone service, and these costs do not vary with their subsequent usage. Thus, the current usage-sensitive CCL charges levied against interexchange carriers ("IXCs") constitute an inefficient "tax" on long-distance calling.

While all taxes distort efficient outcomes, taxes applied at upstream stages in a vertical chain of production are particularly distorting. Switched access is essentially an input into the production of long-distance services; therefore, it is useful to think of ILECs as standing upstream in a vertical chain. Assessing CCL charges against IXCs essentially "taxes" telecommunications services twice, once when levied by the upstream ILECs and again when passed along in the retail prices of the downstream IXCs.

Thus, usage-sensitive CCL charges result in switched access rates that are inefficiently high. IXCs are prevented from minimizing the costs of serving their customers, and telephone subscribers unduly stint themselves in the consumption of long-distance services.

- Q. Do you have other reasons for believing that converting the CCL charge into a flat rate is in the public interest?
- A. Yes. It is clearly questionable whether Arizona ratepayers derive a net benefit from low basic local exchange rates, or the absence of state SLCs, when the Arizona intrastate toll rates are so high. Intrastate toll rates include the high cost of access that IXCs must pass through to their customers. On the other hand, interstate access charges have decreased over time, putting downward pressure on interstate toll rates. Thus, there

Moreover, the increasing divergence between interstate and intrastate switched access rates increases the incentive of IXCs to misreport the percent interstate use ("PIU"). ILECs, like Citizens' three rural affiliates, must rely on PIUs reported by IXCs to assess access charges. If an IXC reports a higher PIU than it actually experiences, the effect is to reduce the access payments the IXC has to make and lower the intrastate access

is a widening disparity between what customers have to pay when they

make a call within Arizona, as compared with calls made interstate. This

Q. What magnitude of switched access rate reductions does Citizens recommend?

revenues earned by ILECs.

imbalance is not in the best interest of ratepayers.

A. Citizens has two alternative recommendations. Citizens preferred course of action is to eliminate originating and terminating CCL charges completely. As I have explained, CCL charges are not based on the incremental costs of providing switched access services and result in inefficiently high long-distance rates to the detriment of consumers. Alternatively, Citizens recommends adjusting rates for switched access services such that the revenues generated by these services are reduced by half. In Citizens' case, either course of action would leave the level of its switched access rates high enough to still provide support for basic local exchange services.

- Q. How does Citizens recommend recouping the foregone revenues associated with its proposed switched access charge reductions?
- A. Citizens believes that the most appropriate means to recover the lost revenue is to increase basic local exchange rates. Citizens understands that historically the Commission has attempted to keep basic local exchange rates as low as possible. However, in the changing telecommunications marketplace, the equitable approach is to have the cost of providing service covered by the rate paid by the customer. This is not always the case with basic local exchange rates. Therefore, it is reasonable for the Commission to allow for increases in basic local exchange service to help offset the decrease in access revenue. As an alternative, the Commission could institute a state SLC, as the FCC has done at the interstate level, as an appropriate recovery mechanism.
- Q. What magnitude of local rate increases would Citizens require to offset the reductions in switched access revenues that would accompany its proposed access charge reforms?
- A. Because of their great dependence on the contribution from intrastate switched access services, Citizens three rural ILECs would need steep local rate increases to replace the lost access revenues associated with either of its recommendations. Alternatively, Citizens would require the inauguration of equally large SLCs.

The size of the local rate increases or SLCs needed to offset the lost revenue accompanying Citizens' two reform proposals varies by company within the Citizens family. On average among Citizens' three rural ILEC

1 2 affiliates, the magnitude of local increases or SLCs sufficient to compensate them for lost access revenues range from approximately \$5.50 to \$6.50 per line per month to as much, or more, than \$13.00 monthly per line.

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## **REVAMPING THE AUSF**

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increases, or the establishment of SLCs, large enough to compensate entirely for the loss of access revenues stemming from its proposed access

charge reductions? No. Citizens believes the largest local rate increase, or the biggest SLC, that its customers should be asked to bear is no more than \$3.00 per month. The remaining sacrifice in switched access revenues should be

Does Citizens recommend that this Commission approve local rate

financed by the AUSF.

Moving toward greater explicit support from the AUSF would contribute significantly toward the preservation of universal service in rural Arizona. Unless reliance upon access charges as a means of promoting universal service is lessened, widely available basic local exchange service at affordable rates is seriously threatened in high-cost, rural areas. As I have just shown, flat-rated charges associated with basic local exchange service may have to rise significantly to replace traditional sources of support, or rural carriers, such as Citizens' three Arizona affiliates, may not be able to generate the funds necessary to maintain, improve, and expand their local operations. Greater AUSF support is a fair and effective explicit replacement for the current system of implicit support.

- Q. How may greater AUSF support become an efficient replacement for implicit support from access charges?
- A. Once the implicit support coming from switched access charges has been lessened through either local rate increase or SLCs, the remainder of the support required for providing basic local exchange may be given greater explicitness through AUSF financing. Efficient explicit financing through the AUSF requires that a charge be levied against all telecommunications providers so that all providers share in the costs of funding universal service.

In the new, increasingly competitive telecommunications environment, an economically sound and viable universal service provision and funding mechanism must be efficient. The size of the subsidy requirement and the sources of subsidy should be made explicit and administered in a competitively neutral manner. That is, once the level of subsidy necessary to maintain universal service is determined, it should be funded in a way that is efficient and distorts the competitive process as little as possible.

This objective itself requires that the provision of universal service and the contribution assessment be borne by all competitors -- both incumbents and new entrants -- in a manner that preserves each competitor's relative efficiency as it vies for the patronage of customers in the market. When firms compete in the telecommunications market, all firms should either provide the facilities necessary for universal service or contribute to the carrier(s) having the universal service obligations, on an equitable and nondiscriminatory basis. The incumbents' retail services should not be required to bear more (or less) of the funding burden than the new

entrants' substitute services. In addition, it is desirable to use recovery mechanisms that are easy to understand and require minimal regulatory oversight once established.

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Q. How should the Commission consider Citizens' recommendations regarding greater AUSF support for basic local exchange service?

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A. It is imperative that the Commission address AUSF reform simultaneously with restructuring access charges, and Citizens strongly recommends that the Commission consolidate the AUSF docket and this docket. In the alternative, the two dockets should proceed concurrently. At the very least, the Commission must recognize that the issues raised in the two dockets are inextricably intertwined.

Citizens contends that under no circumstances should ILECs be required to

file rate cases as a means to make up for foregone access revenues

stemming from access reform. Rate cases are complex and resource

procedure and its appurtenant costs are unnecessary if the Commission

restructures access tariff revisions in such a way that revenue neutrality is

intensive, and rate case expense is passed on to customers. This

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Q. Should the Commission require Citizens to file a general rate case to implement local rate increases, SLCs or increased AUSF support?

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# **SUMMARY OF SPECIFIC RECOMMENDATIONS**

- Q. Please summarize Citizens' specific recommendations in this docket.
- A. Citizens recommends decreasing switched access rates and replacing the foregone revenues with either higher local rates or the establishment of an intrastate SLC. Citizens' preferred course is to eliminate CCL charges, but

reducing access charges such that switched access revenues are halved also seems a reasonable approach. Local rate increases or state SLCs should be applied uniformly to residence and business services and limited to \$3.00 per line per month. Increasing local rates or introducing a state SLC of \$3.00 or more should be phased-in over 3-5 years. After raising local rates or introducing a SLC, any remaining access revenue losses should be made up from the AUSF. ILECs like Citizens' rural Arizona affiliates should not have to file general rate cases when implementing these revenue-neutral rate rebalancing proposals.

- Q. Does this conclude your testimony at this time?
- 12 A. Yes.

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# Résumé of <u>CURT HUTTSELL, Ph. D.</u>

#### PROFESSIONAL EXPERIENCE

**1999 to Present:** MANAGER – STATE GOVERNMENT AFFAIRS, Regulatory and Government Affairs, Frontier and Electric Lightwave, both Citizens Communications Companies, Salt Lake City, Utah.

#### **Duties and Responsibilities:**

- Manage regulatory and government affairs for Frontier and Electric Lightwave's operations in the states of Utah, Arizona and New Mexico.
- Currently serving as President of the Utah Rural Telecommunications
   Association, Vice President and Secretary of the Arizona Local Exchange
   Carriers Association and on the Board of Directors of the New Mexico
   Exchange Carriers Group.

<u>1996 to 1999:</u> **SENIOR ECONOMIC ANALYST**, Regulatory and Litigation Support, INDETEC International, Del Mar, California.

#### **Duties and Responsibilities:**

- Advise South Africa Telecommunications Regulatory Authority on privatization and liberalization in the global telecommunications industry.
- Advise Empresa de Telecomunicaciones de Santa fé de Bogotá (ETB) on satisfying the Superintendent of Public Services' cost manual requirements.
- Advise Vodafone Network on access pricing principles in an arbitration proceeding before the Australian Competition and Consumer Commission.
- Prepare an affidavit on behalf of Pacific Bell for filing in an access charge complaint proceeding brought by AirTouch before the Federal Communications Commission (FCC).
- Prepare written testimony for Qwest and stand for cross examination in universal service proceedings and cost dockets before various state regulatory commissions, including commissions in Idaho, Iowa, Montana, Nebraska and Washington.

- Advise Cincinnati Bell on the theory and measurement of market power in an alternative regulation proceeding before the Public Utilities Commission of Ohio.
- Prepare written testimony in state regulatory proceedings for other INDETEC expert witnesses on behalf of BellSouth, Cincinnati Bell, Nevada Bell, Pacific Bell, Qwest and Verizon.

**1994 to 1996: UTILITY ECONOMIST**, Telecommunications Section, Division of Public Utilities, Department of Commerce, State of Utah, Salt Lake City, Utah.

#### **Duties and Responsibilities:**

- Headed the Telecommunications Section team on interconnection, collocation and unbundling.
- Appeared as the witness for the Division on local transport rate restructuring in US WEST's 1995 general rate case.
- Appeared as the Division's principal policy witness in the local service applications of AT&T, Electric Lightwave, Brooks Fiber Communications (formerly Phoenix FiberLink), Qwest Communications (formerly Southern Pacific Communications) and NextLink.
- Assisted in the Division's lobbying efforts before the Utah State Legislature.

**1985-1994: ECONOMIST IV**, Telecommunications Department, Missouri Public Service Commission, Jefferson City, Missouri.

#### **Duties and Responsibilities:**

- Coordinator for the PSC Telemedicine Task Force.
- Chairman of the Telecommunications Committee of the Missouri Rural Opportunities Council.
- Chairman of the PSC Advisory Committee on Interactive Video.
- Chairman of the PSC Interactive Video Programming Task Force.
- Team Leader of the Project Team on Local Network Modernization and Incentive Regulation.
- Member of the joint FCC/NARUC Bellcore audit team.
- Appearing as a Witness for the Staff on the subjects of pricing and competition in telecommunications.
- Serving as the Staff's chief policy witness in proceedings involving the classification of AT&T's and Southwestern Bell's services as transitionally competitive and competitive.

**1980-1985: CHIEF TRANSPORTATION ECONOMIST**, Transportation Division, Missouri Public Service Commission.

#### **Duties and Responsibilities:**

- Formulating and presenting Staff recommendations to the Commission concerning the level and structure of rates and fares for motor common carriers of passengers and property.
- Appearing as the Staff witness in cases involving the entry, expansion or exit of motor common carriers.
- Assisting in the ratemaking audits of both truck and bus lines, especially in the area of statistical audit sampling.

**1975-1980**: **ASSISTANT PROFESSOR**, Department of Business and Economics, Saint Ambrose University, Davenport, Iowa.

#### Duties and Responsibilities:

- Teaching undergraduate courses in the following subjects: principles of economics, intermediate microeconomics and macroeconomics, introductory and intermediate business and economic statistics, and international trade and finance.
- Serving on the Admission and Library Committees and the Academic Council.

**1973-1974**: **INSTRUCTOR**, Department of Business and Economics, Briar Cliff College, Sioux City, Iowa.

#### **Duties and Responsibilities:**

- Serving as Chairman of the Department of Business and Economics.
- Teaching undergraduate courses in the following subjects: principles of economics, intermediate microeconomics and macroeconomics, introductory business statistics and mathematics of finance.

#### **EDUCATION**

- Ph. D., Economics, University of Nebraska, Lincoln, Nebraska, 1979.
- M. A., Economics, Central Missouri State University, Warrensburg, Missouri, 1971.
- **B. A.**, Economics, Central Missouri State University, 1969.

#### **PUBLICATIONS**

- "State Economic Regulation of Motor Carriage: Research Procedures on the Law and Its Interpretation," Department of Agricultural Economics Staff Paper No. 12, College of Agriculture, University of Nebraska-Lincoln (1976).
- Co-author of two chapters in <u>Regulation and Deregulation of the Motor Carrier Industry</u> (Iowa State University Press, 1989), edited by J.R. Felton and D.G. Anderson.

#### HONORS, AWARDS AND SCHOLARSHIPS

- National Defense Education Act, Title IV Fellowship, University of Nebraska, 1970-1973.
- Joseph F. Dolecki Award, Outstanding Graduate Student in Economics, Central Missouri State University, 1969.